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POSTAL REGULATORY COMMISSION
WASHINGTON, D.C. 20268–0001

PERIODIC REPORTING (PROPOSAL TWO)	Docket No. RM2020-7

PETITION OF THE UNITED STATES POSTAL SERVICE FOR THE INITIATION OF A PROCEEDING TO CONSIDER PROPOSED CHANGES IN ANALYTICAL PRINCIPLES (PROPOSAL TWO)

(April 7, 2020)

Pursuant to 39 C.F.R. § 3050.11, the Postal Service requests that the Commission initiate a rulemaking proceeding to consider a proposal to change analytical principles relating to the Postal Service's periodic reports. The proposal, relating to a methodology for updating city carrier cost attribution to account for recent volume trends, is labeled Proposal Two and is discussed in detail in the attached text.

Respectfully submitted,

UNITED STATES POSTAL SERVICE

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Proposal Two: Introducing a Methodology for Updating the City Carrier Regular Delivery Variabilities

Objective:

The objective of this proposal is to introduce a methodology for updating the delivery time variabilities for city carrier regular delivery time, so that they reflect changes in relative volumes. The proposed new methodology uses current City Carrier Cost System (CCCS) volume proportions to recalculate the relevant variabilities. Moreover, rather than merely constituting a one-time adjustment, the proposed new methodology would be applied again each year to achieve annual updates.

Background

The Postal Service calculates unit delivery costs by rate category to provide insight into the nature of those costs at a detailed level. Review of these costs show some anomalous results; namely, there are large differences between the street time unit delivery costs for flats in FSS and non-FSS zones. For example, the unit street time delivery cost for FSS Periodicals flats, at 10.69 cents, is 3.38 times as large as the 3.16 cent unit street time delivery cost for Periodicals flats delivered in non-FSS zones. This gap in unit costs is surprising because such a gap does not exist for the marginal times on which the costs are based.

The unit cost discrepancy arises because the ratio of attributable costs for FSS and non-FSS flats does not come anywhere close to matching the corresponding ratios of volumes. For example, FSS Marketing Mail Flats represent 17.1 percent of all Marketing Mail Flats, but receive 40.7 percent of overall Marketing Mail Flats' city carrier

delivery time cost. Further investigation of this discrepancy between relative costs and volumes uncovered its source -- the volume proportions from the City Carrier Street Time Study (CCSTS) data collected in FY 2013, and used in the established model, do not match the current volume proportions. Table 1 presents the proportions of letter and flat mail delivered by city carriers based upon the 2013 CCSTS data and the FY 2019 CCCS data.

Table 1

CCSTS and FY 2019 CCCS Proportions of Letter and Flat Mail by Type of Mail

Variable	CCSTS FY 13 Proportions	CCCS FY19 Proportions
DPS	65.0%	70.5%
Cased	20.1%	20.0%
Sequenced	10.4%	6.7%
FSS	4.5%	2.8%

The FY 2019 volume proportions are noticeably different from the study proportions, with the FY 2019 data showing an increase in the DPS mail proportion and declines in both the sequenced mail and the FSS mail proportions. This shift has implications for calculated unit delivery costs, because the city carrier street time variabilities depend upon the volumes used to calculate them. Not accounting for volume changes can lead to the calculation of inappropriate variabilities. If a particular type of mail's volume has declined and the current variability calculation does not

account for that decline, then its volume variable cost will be higher than it should be, leading to high calculated unit costs. Changes in the relative volumes of letter and flat mail create the need for a process of updating the regular delivery activity cost pools.

Proposal

This proposal would annually adjust the variabilities for city carrier regular delivery time. The proposed new methodology for updating is summarized below, but a full discussion of the research supporting the proposal is provided in a report by Professor Michael Bradley, electronically attached to this Petition as a separate pdf file. Also provided separately, in USPS-RM2020-7-1, are the SAS programs and Excel Workbooks that perform all the required calculations, and all necessary documentation.

In the established model, the regular delivery variabilities are found by multiplying each of the marginal times by the relevant mean volume from the CCSTS sample, and then dividing by the total regular delivery time calculated from the equation, $\widehat{DT}$. Below are the variability equations for DPS mail, cased mail, sequenced mail, and FSS mail, respectively.

$$\varepsilon_{DPS} = MT_{DPS}\left(\frac{\overline{DPS}_s}{\widehat{DT}}\right).$$

$$\varepsilon_{CM} = MT_{CM}\left(\frac{\overline{CM}_s}{\widehat{DT}}\right).$$

$$\varepsilon_{SEQ} = MT_{SEQ}\left(\frac{\overline{SEQ}_s}{\widehat{DT}}\right).$$

$$\varepsilon_{FSS} = MT_{FSS}\left(\frac{\overline{FSS}_s}{\widehat{DT}}\right).$$

The city carrier regular delivery activity cost pools are then found by multiplying the city carrier street time variabilities by accrued regular delivery time. For example, for FY 2019, the FSS activity cost pool (ACP_{FSS}) is formed by multiplying the FSS variability (ε_{FSS}) times the accrued letter/flat delivery time cost (DT_{2019}):

$$ACP_{FSS,2019} = DT_{2019} * \varepsilon_{FSS}.$$

The above formulation demonstrates that each street time variability has three parts: the marginal time for the type of mail, the volume for the type of mail, and the total regular delivery time. When volume changes, any of the three parts can change, depending upon the specification of the delivery time equation. Thus, in updating the variability, this proposal follows an approach that allows for responses in all three parts due to a volume change.

The mean volumes used to calculate the regular delivery time elasticities are typically calculated directly from the study data set. But to facilitate an update of the calculated variabilities, one can also derive the mean volumes as proportions of the total average letter and flat delivered volume. The letter and flat delivered volume is the sum of the four shapes for which delivery variabilities are calculated, as indicated in the next equation. The "s" subscript signifies that the volumes are from the CCSTS data set:

$$LFVOL_S = DPS_S + CM_S + FSS_s + SEQ_s$$

Given this formulation, the average volume for any component of the total can be calculated by multiplying the component's proportion of total letter and flat delivery volume by the overall average volume:

$$\overline{FSS} = \left(\frac{FSS_S}{LFVOL_s}\right)\overline{LFVOL_s}$$

This version of the mean formulation makes it easy to update the regular delivery time variabilities using more recent volume means. The recent mean values are calculated by forming the needed volume proportions with the more recent data, here the FY 2019 CCCS volumes.[1]

$$\widetilde{FSS} = \left(\frac{FSS_{FY19}}{LFVOL_{FY19}}\right)\overline{LFVOL_{S.}}$$

Table 2 presents the volume means using the CCSTS study data and the more recent FY 2019 CCCS data.

Table 2

City Carrier Street Time Study and CCCS Based Means
for Letter and Flat Delivered Mail

Variable	Study Means	CCCS FY19 Based Means
DPS	30,599.60	33,210.30
Cased	9,442.80	9,411.50
Sequenced	4,897.70	3,131.60
FSS	2,138.40	1,325.10
Total	47,078.50	47,078.50

[1] The regular delivery time equation also includes volumes collected from customer's receptacles. Data on this type of volume are not included in any of the Postal Service's operational databases, and were obtained through a field study for the City Carrier Street Time Study. Because there are no recent data on volumes collected from customer receptacles, it is not possible to update that volume.

Once calculated, the CCCS FY 2019 based means can be used to update the variabilities. For example, for DPS volume, the new variability will be given by:

$$\varepsilon_{DPS} = \widetilde{MT}_{DPS}\left(\frac{\widetilde{DPS}}{\widetilde{DT}}\right).$$

The tildes on the delivery volume variables indicate that the means were calculated using the FY 2019 relative volumes and the tildes on MT and DT indicate that they were calculated using the FY 2019 based delivery volume means. Table 3 presents the updated variabilities along with their original counterparts.

Table 3
Variabilities for Regular Delivery

Shape	Study Volumes	FY 2019 Volumes	Difference
DPS	16.8%	17.2%	0.5%
Cased	7.0%	7.5%	0.5%
Sequenced	3.4%	2.4%	-1.0%
FSS	3.0%	1.8%	-1.1%

Impact

The impetus for this proposal was the fact the unit city carrier street time flats costs were greatly different for FSS flats and cased flats. To see if recalculating the variabilities to reflect current volumes does indeed mitigate the gap, one can compare the FSS and cased mail flats unit street time costs for FY 2019 using the old variabilities and the new variabilities. This is done in Table 4.

Using the variabilities based upon the FY 2019 volume proportions reduces the FSS Periodicals unit street time cost to about 7 cents and slightly increases non-FSS Periodicals unit street cost to 3.4 cents. The gap between FSS and non-FSS Periodicals unit city carrier street time cost is, as a result, reduced from 7.5 cents to 3.7 cents. The remaining gap is far more reasonable and primarily reflects the differences in marginal times for the two types of Periodicals flats. Similar results hold for the other products, as their unit street time cost gaps are also reduced. For Bound Printed Matter Flats the gap between FSS unit street time costs and non-FSS unit street time costs falls by 2.5 cents. For Marketing Mail Flats, that gap falls by 4 cents and for Carrier Route flats, the gap falls by 3.8 cents.

Table 4
Carrier Unit Flats Costs

Based on CCSTS Volumes

Destinating FSS Zones

Class, Shape, or Rate Category	City In-Office	City Street	City Total	City Plus Rural
Periodicals Flats	0.032	0.107	0.139	0.155
Bound Printed Matter Flats	0.040	0.076	0.117	0.131
USPS Marketing Mail Flats	0.058	0.110	0.169	0.185
Carrier Route Flats	0.032	0.107	0.139	0.156

Destinating Non-FSS Zones

Class, Shape, or Rate Category	City In-Office	City Street	City Total	City Plus Rural
Periodicals Flats	0.071	0.032	0.102	0.152
Bound Printed Matter Flats	0.098	0.045	0.143	0.185
USPS Marketing Mail Flats	0.141	0.033	0.174	0.218
Carrier Route Flats	0.075	0.038	0.113	0.161

Based on FY19 Volumes

Destinating FSS Zones

Class, Shape, or Rate Category	City In-Office	City Street	City Total	City Plus Rural
Periodicals Flats	0.030	0.071	0.102	0.118
Bound Printed Matter Flats	0.039	0.054	0.093	0.107
USPS Marketing Mail Flats	0.056	0.073	0.129	0.146
Carrier Route Flats	0.030	0.071	0.101	0.118

Destinating Non-FSS Zones

Class, Shape, or Rate Category	City In-Office	City Street	City Total	City Plus Rural
Periodicals Flats	0.071	0.034	0.105	0.155
Bound Printed Matter Flats	0.098	0.048	0.146	0.188
USPS Marketing Mail Flats	0.142	0.035	0.176	0.220
Carrier Route Flats	0.075	0.040	0.115	0.163

The use of the FY 2019 volumes to calculate the variabilities leads to changes to some degree in the volume variable city carrier costs for nearly all products.[2] For most

[2] The new unit volume variable city carrier costs are calculated in Unit Cost Changes.xlsx in USPS-RM2020-7-1. The results for individual competitive products are presented under seal in the non-public folder entitled USPS-RM2020-7-NP1.

products, the changes will be very small, just a fraction of a cent, but for directly affected products, the changes will be larger. For High Density and Saturation Flats and Parcels, the unit city carrier cost, including both office time and street time, as well as related indirect costs, falls by 1.2 cents. This cost decline is material because the current city carrier unit cost for High Density and Saturation Flats and Parcels is 6.7 cents.

This smaller unit smaller cost arises because 63 percent of High Density and Saturation Flats are sequenced and another 4.8 percent are sorted on the FSS. Both of those types of mail experienced declines in their associated variabilities due to the volume adjustment. The associated declines in volume variable costs caused the decline in unit cost. First-Class Presort Letters and Presort Cards unit costs rise slightly (by $0.001) because of the higher DPS variability and First-Class Single-Piece Letters and Cards costs fall slightly (by $0.005) because of lower collection costs. Periodicals unit cost falls by half a cent due to the lower FSS variability. The lower FSS variability also reduces Carrier Route unit costs.

Table 5

City Carrier Unit Costs Including Indirect Costs

Product	CCSTS Volumes	FY 2019 Volumes	DIFFERENCE
First-Class Mail			
Single-Piece Letters	$0.099	$0.094	-$0.005
Single-Piece Cards	$0.118	$0.113	-$0.005
Presort Letters	$0.040	$0.041	$0.001
Presort Cards	$0.035	$0.035	$0.001
Single-Piece Flats	$0.229	$0.222	-$0.008
Presort Flats	$0.180	$0.177	-$0.003
USPS Marketing Mail			
High Density and Saturation Letters	$0.042	$0.041	-$0.001
High Density and Saturation Flats/Parcels	$0.067	$0.055	-$0.012
Every Door Direct Mail-Retail	$0.059	$0.049	-$0.009
Carrier Route	$0.120	$0.113	-$0.007
Letters	$0.041	$0.041	$0.001
Flats	$0.174	$0.168	-$0.005
Parcels	$0.385	$0.383	-$0.001
Periodicals	$0.109	$0.104	-$0.005
Package Services			
Bound Printed Matter Flats	$0.138	$0.136	-$0.003
Bound Printed Matter Parcels	$0.271	$0.271	$0.000
Media/Library Mail	$0.321	$0.318	-$0.004
US Postal Service	$0.164	$0.166	$0.002
Free Mail	$0.142	$0.143	$0.000
Total Domestic Competitive Mail and Services	$0.363	$0.361	-$0.002
Total International Mail and Services	$1.024	$1.025	$0.000